

**Preliminary Amendment filed May 31, 2005  
U.S. Patent Application Serial No. 09/884,998**

**REMARKS**

Claims 25 and 30 have been amended in order to more particularly point out, and distinctly claim the subject matter to which the applicants regard as their invention. The applicants respectfully submit that no new matter has been added.

Claims 25 - 33 remain in this application. Claims 1 - 24 were previously canceled.

In the Office Action of December 1, 2004, the Examiner sets forth the following obviousness rejections: (1) claims 25, 26, 28 and 29 stand rejected under 35 USC 103 based on Girardello; and (2) claims 27 and 30 - 33 stand rejected under 35 USC 103 based on Girardello in view of Japanese Patent Publication No. 1-272719. The applicants respectfully request reconsideration of these rejections.

First, the applicants submit that Girardello's Figure 8 has two regions each being composed of a single structure (i.e., one composed of sorbite only with the other composed of ferrite only).

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So as to further distinguish over such teaching in Girardello, the applicants have amended each of claims 25 and 30 so as to recite as follows:

\* \* \* and said soft layer being composed of either (a) a structure consisting of ~~one of~~ pearlite and bainite or (b) at least two structures selected from the group consisting of ferrite, pearlite, bainite and martensite, \* \* \*.

In other words, the deletion of the words “one of”, as noted above, would be consistent with the argument that the applicants’ claimed invention is distinguishable over Girardello’s teaching (in Figure 8) of the two regions each composed of a single structure. That is, in the applicants’ claimed invention, there is no situation in which the soft layer is composed of a single structure.

Second, in the Examiner’s last Advisory Action (item 11, page 2), the Examiner responds to the applicants’ previous arguments (as set forth in the Response filed February 23, 2005) by suggesting that:

[in Girardello’s Figure 8], the core between the hardened inner and outer layers contains bainite + ferrite, sorbite, martensite + sorbite structures.

The applicants submit that the Examiner is confusing the following claimed structural elements: “core region”, “soft layer”, and “inner and outer circumferential surfaces”. It is clear that independent claims 25 and 30 recite that “the soft layer [is] between said inner and outer circumferential surfaces.” In Girardello’s Figure 8, the portion labeled “BAINITE+FERRITE

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TRANSITION MIX” is between the ferrite (“soft layer”) and martensite (“outer circumferential surface”).

It is arguable, however, that such “BAINITE+FERRITE TRANSITION MIX” portion is a “soft layer being between said inner and outer circumferential surfaces”, as claimed. That is, the “BAINITE+FERRITE TRANSITION MIX” portion may be said to be *located* between the inner circumferential surface (“SORBITE”) and the outer circumferential surface (“MARTENSITE”).

Accordingly, the applicants have further amended the following portion of the last clause of each of independent claims 25 and 30 so as to recite as follows:

said core region having a soft layer, said soft layer being between said inner and outer circumferential surfaces and being attached thereto, and said soft layer being composed of either (a) a structure consisting of ~~one of~~ pearlite and bainite or (b) at least two structures selected from the group consisting of ferrite, pearlite, bainite and martensite, \* \* \*.

To the contrary, Girardello’s “BAINITE+FERRITE TRANSITION MIX” portion in Figure 8, although attached to the martensite portion (“outer circumferential surface”), is also attached to the ferrite portion (“soft layer”), and not to the sorbite portion (“inner circumferential surface”).

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It is thus submitted that, in view of the amendments to independent claim 25 (and claims 26 - 29 dependent therefrom) and claim 30 (and claims 31 - 33 dependent therefrom), a person of ordinary skill in the art would not have found the applicants' claimed invention, as now set forth in the amended claims submitted herewith, obvious under 35 USC 103(a) based on the teachings of Girardello and Japanese Patent Publication No. 1-272719, singly or in combination.

Accordingly, the withdrawal of the outstanding obviousness rejections under 35 USC 103(a) based on Girardello, singly or in view of Japanese Patent Publication No. 1-272719 is in order, and is therefore respectfully solicited.


The above amendments are believed to place the claims in proper condition for examination. Early and favorable action is awaited.

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Respectfully submitted,

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PATENT TRADEMARK OFFICE

Attachments: (RCE) Request for Continued Examination  
Petition for Extension of Time (3-month ext.)

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